

Consultative Workshop on Integrating Climate Risk Management in Agricultural University Curricula

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Workshop Report

Accelerating Impact of CGIAR Climate Research for Africa (AICCRA)

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RESEARCH PROGRAM ON
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About AICCRA

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About the author

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Background

Climate impacts pose enormous challenges to agricultural productivity and exert pressure on its profitability by increasing the riskiness of farmers' decisions. Climate risk is a significant barrier to adopting improved farming practices and production inputs, especially for relatively poor smallholder farmers in risk-prone environments. Climate risk also leads to uncertainty in the decision-making of other actors in the food system, including agricultural value chains, rural financial services, government planning, and humanitarian and government organizations responsible for disaster management. Thus, advances in climate science and improved availability of locally relevant climate data and information products can expand potential options for understanding, anticipating, and managing climate-related risks in the agricultural sector. Although the impact of climate-related risks has many facets in agriculture and the food system, the understanding and use of practical tools to manage climate risks are not well integrated into university-level curricula. This has led to Ethiopian public universities' engagement to advance skill-based climate curriculum through continuous consultation. The first proposed curriculum is a three-week customized training for Staff, M.Sc. students, and Ph.D. students. By developing staff and students' practical skills, this curriculum plans to integrate CRM courses in university curricula in various forms.

This was initiated through discussion among Dr. Dawit Solomon (Regional Program leader, CGIAR Research program on Climate Change, Agriculture and Food Security (CCAFS)), Dr. Tufa Dinku (Senior Research Scientist, International Research Institute for Climate and Society (IRI)), and Dr. Berhanu Belay (Consultant for International Center for Agricultural Research in Dry Areas (ICARDA)), to engage Ethiopian public universities to advance skill-based climate curriculum.

The procedures followed for engaging universities in climate risk management and results from the first consultative meeting are presented below.

Approach

The experience in integrating emerging skills in university curricula and establishing Community-Based Breeding Program (CBBP) model villages was shared from the experience of ICARDA. ICARDA, in consultation with Ethiopian public universities, has managed to integrate community-based breeding programs in 21 universities curricula and established 14 CBBP villages under the supervision of seven public Universities. It was agreed to approach eight universities to create the demand and install CRM in the university program.

Based on the same discussion, we approached eight universities via telephone, and they showed interest in advancing the initiative in the respective universities (Annex 3). It was also important to run a consultative meeting with eight university representatives. We invited two staff members from each university; one participant oversaw the university's academic program, and one senior staff engaged in teaching and research in the field of climate sciences. A one-day workshop was fruitful. The proposed curriculum includes climate basics, climate data analyses and interpretation, and climate information application for decision-making in Agriculture. The presentation focused on the means of integrating climate analytical skills in university programs. There were two presentations in the workshop. The topics captured in the workshop included curriculum amendment experiences: CBBP under the supervision of ICARDA; Modular training course on Climate Risk Management in Agriculture (CRMA) for agriculture universities and adaptation of CRMA courses by agriculture universities; discussion on modalities to integrate CRM in university curriculum (Annex 1). The following points were concretized during the workshop discussion.

Major highlights of the workshop

- Climate change is a reality and has hampered agricultural productivity that needs the skill to adapt and mitigate climate change.
- Climate risk management (CRM) requires skill in the basics of climate sciences, climate data analyses, and interpretation and application of climate data for climate risk management decision making at each level such as household, community, and country level. However, there is a skill gap in advancing CRM in the universities at all stages.
- There is a need to fill the skill gap in climate risk management in terms of the basics of climate science, data analyses, and the interpretation and application of climate information for decision-making.
- Universities have a more significant role to play through various forms to integrate CRM in their curricula (course description, course outline, and course material and using local data for teaching and learning) to fill the skill gap.
- It was also evident from the discussions that there is a need to run customized training of trainers workshops for university staff engaged in teaching and research in climate-related fields. The trained staff will then train Ph.D. and M.Sc. students as well as other academic staff in the respective universities.
- The training will be run for 2-3 weeks. IRI and CCAFS shall develop the course content in consultation with the universities.
- The skill acquired shall be useful to revisit curriculum and amend with new knowledge and use local data for teaching and contribute to ensuring the relevance and quality of education
- As time goes, one can create demand and integrate CRM in existing curricula in the course description, course content, and teaching resource material. Based on the demand created, the universities can start new programs in climate science and galvanize the existing programs in climate sciences.
- It was also noted that we could also extend the same experience to other universities running climate sciences courses. Hence, we can expand our experience from 8 universities to 46 Universities
- The workshop was concluded by setting action points and timelines and assigning deeper monitoring and evaluation responsibilities. The action points and timeline are presented as an annex with this document (Annex 2).
- It was agreed to share the workshop points with the respective university top management and team members in climate-related programs. So far, we have received positive feedback from the universities. It was noted that there is a strong demand to implement the CRM initiative and ensure knowledge-based climate risk management (Annex 3).
- It was also noted that updating a curriculum with new findings and local data in our teaching endeavor can be extended to other programs as a spillover effect.

Annex 1: Workshop Schedule – November 10, 2021

Time schedule	Activity	Facilitator
9:00 – 9:10	Opening remarks	Dawit Solomon
9:10 – 9:20	Introduction of objectives of the consultative workshop	Berhanu Belay
9:20 – 9:40	Curriculum amendment experiences: CBBP under the supervision of ICARDA	Berhanu Belay
9:40 – 11:00	Modular training course on 'Climate Risk Management in Agriculture (CRMA) for Agriculture Universities' - content presentation and discussion	Tufa Dinku
11:00 – 11:20	Health break	
11:20 – 12:00	Adaptation of CRMA courses by agriculture universities: discussion on modalities	Berhanu Belay
12:00 – 13:00	Scaling climate science M.Sc. programs to Ethiopian universities	Teferi Demissie
13:00 – 14:00	Lunch	
14:00 – 15:30	Discussion and way forward: setting action points	Dawit Solomon, Tufa Dinku, Teferi Demissie
15:30 – 16:00	Health break	

Annex 2: Action points, schedule, and responsibility to install CRM programs in universities

Action points	Schedule	Responsibility	Status
Discussion and planning to advance CRM	October 2021	AICCRA, IRI, ICARDA	√
Consultative meeting: <ul style="list-style-type: none"> Needs assessment for CRM in courses Modality identification 	November 10, 2021	AICCRA, IRI (through ACToday)	√
Identification and consensus on the modality <ul style="list-style-type: none"> Short course (2-3 weeks) given to M.Sc., Ph.D., and staff 	November 10, 2021	AICCRA and partner universities	√
Outreach to departments offering CRM	November 25, 2021	Partner universities	√
Provision of feedback to AICCRA on the institutionalization of the programs and modalities	November 27, 2021	Partner universities	7 universities responded positively; 1 university remains
Preparation of resource material and content structure for the short course	December 2021 – March 2022	AICCRA and partner universities	
Provision of training on modules identified for ToT	March – June 2022	AICCRA and partner universities	
Provision of training to staff and students: <ul style="list-style-type: none"> Recruitment of M.Sc., Ph.D., and university staff for training Provision of ToT 	March – July 2022	AICCRA and partner universities	
Monitoring and evaluation sessions	Periodically	AICCRA and partner universities	
Scaling up to other countries	TBD	AICCRA and IRI	

Annex 3: Feedback of universities in integrating CRM in university curricula

	Institution	Comments and feedback	Focal person
1	Hawassa University	"We had a good discussion with department heads offering courses related to climate change and sustainable agriculture. All were interested in the proposed training and activity plan. They also agree to discuss at the department level to identify instructors and students, modalities, and appropriate time for the training. We also agreed to discuss the issue at the academic level to have equal knowledge about the objective and activity plan of the proposed training."	Zerihun Demrew – associate dean of College of Agriculture
2	Wolaita Sodo University	"Today [30/11/21], we discussed at AC and endorsed DC output about CRM; we are ready to sustain MSC/MA students by training. Finally, I will send 1st-year students' numbers in different specialist [programs]."	Mesfin Kassa – vice-dean of College of Agriculture and Natural Resource Management
3	Bahir Dar University	"I would like to acknowledge the initiatives you took to integrate the issue of climate risk management in at least a chapter for the different courses since it is a cross-cutting issue. We [Fentahun and I] have had a short meeting with the college dean; accordingly, the college is highly interested in working with you, and hopefully, we will be effective in implementation."	Solomon Addisu – course chair for Environmental Science at Department of Natural Resource Management
4	Debre Birhan University	"I had a short meeting with department heads and college dean to brief CRM, the college of Agriculture and Natural Resource Sciences ready to support and implement this meaningful initiative."	Abebe Bereda – assistant dean at College of Agriculture and Natural Resource Sciences
5	Haramaya University	<p>"We had an excellent meeting with the Vice President for Academic Affairs of our University (Prof. Mengistu Urge), and we have discussed the given assignment in detail. Finally, we reached onto consensus about the relevance of mainstreaming Climate Risk Management in Agriculture issues into the curricula, and the following points have been set as a concluding remark from the discussion.</p> <ol style="list-style-type: none"> 1. For the undergraduate program, integration of the concept (as chapter/s or sub-heading/s) into the existing courses has been recommended 2. For postgraduate programs and even for the staff related to the discipline, starting with a certificate is recommended. 3. The center, Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation at the university is considered a potential resource for its realization; especially for the center's students to be trained with a Certificate. <p>So, the College of Agriculture and Environmental Sciences, Haramaya University, is welcome for further steps to realize the dreams."</p>	Ephrem Mamo Weldekidane – assistant professor at College of Agriculture and Environmental Science
6	Injibara University	<p>"We had a short discussion with some department heads, lecturers, vice dean, and dean of the agriculture, food, and climate science college last week at Injibara University. We decided on the following points.</p> <ol style="list-style-type: none"> 1. we have decided to incorporate some climate science-related courses in the curriculum development programme. The forestry and climate science department has developed a curriculum, including around six climate science courses. 2. for those volunteers, woreda, and kebele experts, students, and lecturers within the discipline, short-term training and certification is our recommendation. 	Wondwossen Kibre – lecturer at College of Agriculture and Veterinary Medicine

		So, Injibara university college of agriculture, food, and climate science will work for our team's success working on CRM with those best partners and initiatives of CRM."	
7	Ambo University	"We have discussed with our team and college dean that CRM is a topic we should address in various forms in our program. Curriculum integration in an undergraduate and postgraduate program is one venue. A short course on CRM is also essential to fill the skill gap at each stage. Therefore, Ambo University is ready to collaborate to advance CRM and beyond."	Gizachew Kebede – vice-dean of College of Agriculture and Natural Resource Management
8	Jimma University	"Jimma University is eager to collaborate with AICCRA and IRI in climate science and CRM in terms of curriculum integration and capacity Building in CRM and climate science. I had a short meeting with department heads to brief on climate risk management, all are ready to support and implement the initiatives. The department heads appreciated the idea of improving the skill of instructors in the area of climate modelling. I hope we will do best thing together."	Weyissa Garedew – vice-dean of College of Agriculture and Veterinary Medicine

Annex 4: List of Participants

Name of participant	Organization	Position/ Title
Demelash Kefale Hunegnaw	Hawassa University	Researcher
Zerihun Demerew Yigezu	Hawassa University	Associate dean
Wondwossen Kibre	Injibara University	Lecturer
Abebe Bereda	Debre Berhan University	Assistant dean
Yiteas Getahun	Debre Berhan University	Lecturer
Mesfin Kassa	Wolaita Sodo University	Vice-dean
Asrat Worku	Wolaita Sodo University	Associate professor
Nigussie Bekele	Ambo University	Researcher
Gizachew Kebede	Ambo University	Vice-dean
Ephrem Mamo Weldekidan	Haramaya University	Assistant professor
Solomon Estifanos	Haramaya University	Administrator
Solomon Addisu	Bahir Dar University	Researcher
Fentahun Meheret	Bahir Dar University	Researcher
Weyissa Garedew Terefe	Jimma University	Vice-dean
Desalegn Gameda	Jimma University	Lecturer
List of facilitators		
Name of facilitator	Organization	Position/ Title
Berhanu Belay	International Center for Agricultural Research in Dry Areas	Consultant
Dawit Solomon	CGIAR Research Program on Climate Change, Agriculture and Food Security	Regional program leader
Tufa Dinku	International Research Institute on Climate and Society	Senior research scientist
Teferi Demissie	CGIAR Research Program on Climate Change, Agriculture and Food Security	Senior climate scientist



AICCRA
Accelerating the Impact of CGIAR
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The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) brings together some of the world's best researchers in agricultural science, development research, climate science and Earth system science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security. For more information, visit us at <https://ccafs.cgiar.org/>.

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